

What is Claimed is:

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1. Installation for competitive play with ice hockey stick and ice hockey puck with a game platform, a goal with targets, target identifiers and a computer, characterized in that a computer controlled puck circulation is closed with a puck magazine (30), a passing unit (46) which passes pucks (1) to a player (40), a conveyor apparatus (2) which sorts and conveys shot pucks (1) into the puck magazine (30), and that with the help of a light barrier A (48) and a light barrier B (49), a camera (50) und a corresponding part of a computer program shots made by the player (40) are evaluated by assigning points and those points form the basis for a competitive play which can be played over the international data network.

2. Installation for competitive play with ice hockey stick and ice hockey puck according to claim 1, characterized in that the puck magazine (30) is made essentially of an outer tube (31) and an inner tube (32) and a helical ramp (33) between the outer tube (31) and the inner tube (32), whereby the helical ramp (33) is only wide enough that the pucks (1) must be aligned in a row behind one another and that the slope and surface of the helical ramp (33) are constructed such that the pucks advance automatically under the influence of gravity.

3. Installation for competitive play with ice hockey stick and ice hockey puck according to one of claims 1 and 2, characterized in that a computer controlled puck dispenser (35) located above the level of the game platform (10) releases pucks (1) which are advanced from the magazine by gravity.

4. Installation for competitive play with ice hockey stick and ice hockey puck according to one of claims 1 to 3, characterized in that the puck dispenser (35) consists essentially of a rotating disk (36) at the periphery of which are located separating rollers (37) which respectively protrude into a puck channel (34) extending past, so that the first separating roller (37) blocks the next closest, advancing puck (1) and releases that puck (1) only after a partial rotation of the rotating disk (36), whereby the second separating roller (37) just extends into the gap between the first and a following puck (1) and again blocks the following puck (1) until its release.

5. Installation for competitive play with ice hockey stick and ice hockey puck according to one of claims 1 to 4, characterized in that the passing unit (46) is fed by way of the downwardly inclined puck channel (34) and from the puck magazine (30) and the higher positioned puck dispenser (35), so that the

released puck (1) enters without further technical cost at a preliminary speed into the passing unit (46) where it is additionally accelerated.

6. Installation for competitive play with ice hockey stick and ice hockey puck according to one of claims 1 to 5, characterized in that the rotation speed of the accelerator rollers (42) of the passing unit (46) can be adjusted by the user by way of frequency converters.

7. Installation for competitive play with ice hockey stick and ice hockey puck according to one of claims 1 to 6, characterized in that target surfaces on the target mat (15) are hierarchically divided into partial target surfaces A (22), partial target surfaces B (23) and partial target surfaces C (24).

8. Installation for competitive play with ice hockey stick and ice hockey puck according to one of claims 1 to 7, characterized in that the capturing of the hit targets is carried out by way of a camera (50) connected to the parallel port of the computer (60), whereby the image captured at the calculated moment is compared in the computer (60) with an image without puck (1) according to brightness and the position of the hit determined therefrom.

9. Installation for competitive play with ice hockey stick and ice hockey puck according to one of claims 1 to 8, characterized in that two inclined collector surfaces (13) extend towards a conveying channel (14), whereby the conveying channel (14) has perpendicular walls and is so narrow that two flatly oriented pucks (1) cannot lie side-by-side.

10. Installation for competitive play with ice hockey stick and ice hockey puck according to one of claims 1 to 9, characterized in that a circulating conveyor runs on the base of the conveying channel (14) in order to initially transport the shot and unsorted pucks (1) in this conveying channel (14) to one side.

11. Installation for competitive play with ice hockey stick and ice hockey puck according to one of claims 1 to 10, characterized in that the conveyor consists of a pair of conveyor belts (6) running below the vertical walls of the conveying channel (14) and several drivers (7) connecting the conveying belts (6) at a distance corresponding to the width of the conveying channel (14).

12. Installation for competitive play with ice hockey stick and ice hockey puck according to claim 11, characterized in that the driver (7) has a rounded recess (26) in conveying direction and with about the

curvature of the circumference of a puck (1), with which a puck (1) lying flat is centred in the conveying channel (14), that the driver is only high enough so that it captures only a puck (1) lying flat, that it includes a bevel (27) onto which a lift off tongue (18) can slide, and that it has a cut-out (25) in an upper surface into which the lift off tongue can engage.

13. Installation for competitive play with ice hockey stick and ice hockey puck according to one of claims 1 to 12, characterized in that the path of the conveyor at the end of the horizontal conveyor portion (3) is redirected into an upwardly inclined conveyor portion (4) of preferably 45 degrees slope, so that pucks (1) standing upright in a first sorting step roll back onto the horizontal conveyor portion (3) for sorting.

14. Installation for competitive play with ice hockey stick and ice hockey puck according to one of claims 1 to 13, characterized in that the inclined conveyor portion (4) merges into a vertical conveyor portion (5) so that in a second sorting step only pucks (1) guided exactly perpendicularly in front of a driver (7) are conveyed, while uncleanly positioned pucks (1) fall back.

15. Installation for competitive play with ice hockey stick and ice hockey puck according to one of claims 1 to 14, characterized in that a knock off member (9) is provided at each side edge of the vertical conveyor portion (5) at a height of about 15 cm above the inclined conveyor portion (4) and at a horizontal spacing which is slightly larger than the diameter of a puck (1), so that in a third sorting step only pucks (1) exactly centred in the recess (26) of the driver (7) remain on the vertical conveyor portion (5), while not centrally lying pucks (1) are knocked off and fall back onto the horizontal conveyor portion (3).

16. Installation for competitive play with ice hockey stick and ice hockey puck according to one of claims 1 to 15, characterized in that the conveying channel (14) in the horizontal and the inclined portions widens in conveying direction so that disadvantageously positioned pucks (1) cannot jam.

17. Installation for competitive play with ice hockey stick and ice hockey puck according to one of claims 1 to 16, characterized in that between an upper end of the vertical conveyor portion (5) and an upper end of the puck magazine (30) a connecting ramp is provided which in direction of the vertical conveyor portion (5) has a lift-off tongue (18) which respectively engages the cut-out (25) in the top surface of the drivers (7) so that it reaches under and takes over a puck (1) lifted up at the vertex of the vertical conveyor portion (5) and guides the puck (1) onto a ramp downwardly inclined towards the

puck magazine (30) where the puck (1) by gravity enters the helical ramp (33) of the puck magazine (30).

18. Installation for competitive play with ice hockey stick and ice hockey puck according to one of claims 1 to 17, characterized in that a control console (51) with control keys (52) resting on the platform (10) is preferably provided, whereby the control keys (52) can be operated with the hockey stick so that the player (40) can carry out all dialogues with the computer without having to lay down the stick and remove the gloves.

19. Installation for competitive play with ice hockey stick and ice hockey puck according to one of claims 1 to 18, characterized in that the control console (51) is movable on the game platform (10) in a direction transverse to the shot path so that it can be moved for righthanders and lefthanders alike to the side respectively opposite to and at the desired spacing from the player position.

20. Installation for competitive play with ice hockey stick and ice hockey puck according to one of claims 1 to 19, characterized in that the calculation of the point value is based on the factors hit category, reaction time, shot speed, passing interval, and passing speed, whereby the individual factors are realistically weighted.

21. Installation for competitive play with ice hockey stick and ice hockey puck according to one of claims 1 to 20, characterized in that the point value for a shot is graphically illustrated on a monitor in that the height of a bar corresponds to the number of points and the colour of the column corresponds to the target category hit.

22. Installation for competitive play with ice hockey stick and ice hockey puck according to one of claims 1 to 21, characterized in that the point value for a shot is acoustically indicated in that the length of a specific signal tone corresponds to the point value and in that a specific pitch is assigned to the target category hit.

23. Installation for competitive play with ice hockey stick and ice hockey puck according to one of claims 1 to 22, characterized in that the calculation of a series result achieved on such an installation is carried out as the average of a selected number of shots, preferably 16 shots.

24. Installation for competitive play with ice hockey stick and ice hockey puck according to one of claims 1 to 23, characterized in that the calculation of a daily result achieved on such an installation is based on the average of at least two, preferably three best series results.

25. Installation for competitive play with ice hockey stick and ice hockey puck according to one of claims 1 to 24, characterized in that the calculation of an annual result achieved on such an installation is based on the average of at least two, preferably three best daily results.

26. Installation for competitive play with ice hockey stick and ice hockey puck according to one of claims 1 to 25, characterized in that with the help of the international data network a worldwide valid ranking list position is derived from the respective annual result and the ranking list is continuously updated, whereby the data structure is designed such that statistics corresponding to different inquiry criteria, for example, age group, players of a team, players within a city, a country, can be output to anyone at any time and at any location.

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